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ABSTRACT

This paper presents a case study that describes the role, scope, and evolution of institutional research (IR) in support of planning and decision making at Minot State University in North Dakota. It describes four specific phases of IR involvement in institutional change at the university, based on a four-tiered planning model that relied on input from all levels of the university. These phases are: needs identification, problem solving, assessment, and direction for action. The university effectively utilized the first three phases of this process to address its need for: (1) increased classroom and office space; (2) increased numbers of terminally-degreed faculty; (3) administrative reconfiguration; (4) improved community support; (5) economic development in the region; (6) development of additional monetary resources; and (7) improvement of academic quality. It is currently in the fourth phase, using IR to help implement directions for action to address the identified needs. (Contains 11 references.) (MDM)

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# From Rubble to Edifice: Research as the Bricks and Mortar of Institutional Change

by

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# From Rubble to Edifice:
# Research as Bricks and Mortar of Institutional Change

Colleges and universities rightfully take great pride in the achievement of goals that have been set through a formal planning process. Yet many times, these organizational goals have been set intuitively. It is often the collective wisdom of the campus planning group rather than the intentional generation of new and distinctive data that inspires goal-setting activity. But, this need not always be the case. The use of data in a deliberate manner can serve as a catalyst for institutional change. The following is a case study that describes the role, scope, and evolution of institutional research in support of planning and decision making at a public, comprehensive university in a rural area of the Midwest. It is a good example of how collective wisdom--or "institutional intuition" as it may sometimes be characterized--can be tested against data and either confirmed or modified as a result.

## Related Literature

Institutional research (or "IR") has had a tradition of providing two levels of support on the campus: to collect and report institutional data, and to analyze policy for enlightened decision making (Chan, 1993). As recently as the late 1970's, however, scholar-practitioners began pointing to the need to better utilize the resources of IR facilities on our campuses. Many IR proponents envisioned opportunities for institutional research to facilitate those organizational changes deemed desirable by the campus' executive leadership team. A New York colloquium, for example, addressed the role of IR in institutional self-assessment and discussed how self-assessment contributed to institutional planning and change (Tritschler, 1977). Spencer (1979) stressed the importance of linking IR directly to planning in order to bring about organizational change, adding that this "link" constituted a cost-efficient use of an otherwise relatively expensive support service. In a study of marketing practices on college campuses, Miklich (1981) found a distinct association between the implementation of a marketing concept and resultant institutional change. She remarked on the importance of IR to the development of a marketing approach. Early case studies document a shifting away from traditional IR roles to those which more explicitly involve institutional research services in activities of organizational change (Armstrong & Dykes, 1978; Matlock & Hogg, 1978). More contemporary case studies in the literature

suggest that IR operations are indeed becoming more integral to the process of institutional change (Chan, 1993; Corak & Wharton, 1993; Harris, 1993). Many more campuses now recognize the potential of these resources to influence the pace and direction of institutional change.

Chan (1993) noted that "early and mature phases of planning call for different types of support from institutional research" (p. 537). The following case provides a very good example of precisely how that can play out on a campus.

## The Case Study

The case in point is of a university that was called to task by a 1987 accreditation report from the North Central Association of Schools and Colleges in which it was criticized for past planning efforts characterized as "irregular, projective, additive, and facilities-centered." The report urged the development of a process that was "ongoing, strategic, prioritizing, and program-centered." Inspired by new leadership, a different planning model was then crafted. This model was one designed to call upon the newly created resources of the Office of Institutional Research (IR) to provide data essential to planning. It was at that time that IR as an activity became formally involved in planning for organizational change on that campus (Corak & Wharton, 1993).

The planning model complemented the basic organizational structure of the institution by establishing four levels, or "tiers", of decision making. The model was intentionally designed to fit the organizational structure of academic affairs. However, it has proven to be adaptable to the areas of student affairs, business affairs, advancement and athletics. The model now applies to the campus as a whole. The process begins in academic affairs, for example, at ground level--Tier IV--with planning initiatives developed by academic departments. Those initiatives are then forwarded for further consideration to the college level, or Tier III. College level discussions either may produce new or modified initiatives that then proceed to Tier II, the vice presidential level, or may result in the endorsement of a Tier IV initiative, giving the "green light" to that unit to go forward with the idea. Tier II discussions embrace the same format and may transform the forward-carried initiatives into broader university goal statements which are then forwarded to Tier I, the executive leadership team. Tier I represents the culmination of the process. Here it is expected that new initiatives that are more global in nature will be articulated. These, then, become the ultimate product of the planning process.

The campus, Minot State University, is a comprehensive institution of four thousand students located in the northwest region of North Dakota. Minot State followed the traditional path of development from normal school to state teacher's college, to state college. With the addition of a graduate school, it attained university status. Minot State is a member of the North Dakota University System (NDUS), an eleven campus consortium of public higher education institutions. Like all campuses in the NDUS, it has been subject to shrinking state budgets over the past ten years. Nonetheless, it has a service region covering a two hundred-mile radius and a perceived responsibility to provide a wide array of programs to those constituents. Minot State is considered an important educational resource to North Dakota.

## IR and Institutional Change: An Evolving Partnership

This paper describes four specific phases of IR involvement in institutional change at Minot State University. The first phase was one of needs identification. The second phase was one of problem solving. The third phase was that of assessment. The fourth phase is one of redirecting action in order to better document desired institutional change.

### Phase I: Needs Identification

Phase I got underway in 1988 through 1989. Because IR was in its infancy as a formal activity on the campus, nearly 100% of its output at that time was aimed at answering the data needs of the various planning tiers throughout the campus. Each tier posed different questions to the IR operation before it passed its observations and recommendations along to the next tier. As the process progressed, the research questions became more sophisticated so that by the time the last tier's activities were culminating, it had, with the assistance of IR, identified the following seven areas of organizational need:

1. Need for more classroom and office space.
2. Need for increased numbers of terminally-degreed faculty.
3. Need for administrative reconfiguration.
4. Need for improved community support.
5. Need for the economic development of the region.
6. Need for the development of additional monetary resources.
7. Need for the improvement of academic quality.

Institutional Research had well-documented what some intuitively believed to be areas of need. However, many were surprised by the severity of those needs identified by the IR operation. The data were incontestable.

Phase II: Problem Solving

The need for more classroom and office space. In 1989-90, IR entered the second phase of its contribution to institutional change by assisting the top tier planning group with the development of solutions to meet those needs articulated in Phase I. Having identified the need for added classroom and office space, for example, IR provided the administrative team with the documentation it needed to solicit assistance from the federal government. The efforts were successful in that the campus secured a matching grant to begin the construction of a new building. IR then went to work to provide documentation for area legislators, helping to influence state-level decision making. State money ultimately was committed to match the federal resources. The new building is underway.

The need for increased numbers of terminally-degreed faculty. A second matter addressed in the problem solving phase was the perceived need for more doctorate holders among the faculty. There were many sound reasons for increasing the number of Ph.D.'s among the ranks: long range plans for the University included the development of additional graduate programs which would require Ph.D.'s for accreditation purposes; the campus wanted to diversify its curriculum and needed new specialists to do so; it was understood that the expertise of Ph.D.'s would help to address the economic development needs of the area; terminally-degreed faculty could help generate more research revenues through grants and contracts; an increase in the proportion of Ph.D.'s would help undergird a recent change in institutional status from "college" to "university."

The need for more Ph.D.'s was clear, but how to attract them was less so. IR documented institutional inability to compete in the hiring market (Oklahoma State University, 1988-89) which led to an administrative decision to allocate resources for an educational leave program for tenure-track faculty. The campus decided to "grow its own" Ph.D.'s by awarding talented, master's prepared individuals an institutionally funded opportunity to complete a doctorate without having to terminate their relationship with the University.

Other newly-created incentives for faculty in keeping with the "grow your own" philosophy included: increased grant opportunities for research and

development projects; the inclusion of research standards into the formal evaluation process for promotion and tenure; discretionary money earmarked for college deans so that each could reward worthy scholarship in a tangible manner; funded research opportunities sponsored by the office of the vice president for academic affairs; and a formalization of campus research bureaus to serve as vehicles for faculty wanting to develop a research agenda. All of these incentives were designed to spur interest in and commitment to scholarship by creating an environment conducive to the enculturated expectations of doctorate holders.

The need for administrative reconfiguration. In addressing the third need identified in Phase I, IR suggested the expansion of the development officer's role as well as a reorganization plan for student records that would facilitate the enhancement of the IR support operation. Favorably influenced by this particular reconfiguration and facing external pressures to freeze all hiring decisions, the incoming chief executive officer suggested a redistribution of the chief academic officer responsibilities as well. Rather than filling a vacancy created by the outgoing vice president for academic affairs, the president redistributed vice presidential responsibilities among himself and his deans and even to an administrative assistant in the academic affairs area.

The need for improved community support. In tackling this fourth area, IR survey results pointed to a need to more aggressively involve constituents in the immediate service area in the life of the University. A statewide tax referral in 1989 had served as indisputable evidence of the severe lack of public support for state higher education in general. Minot State University actively researched potential methods for developing productive relationships with community constituents and adopted the interactive university concept as articulated by Gilley (1990). An interactive university is one:

> whose basic developmental strategy is to form an active and reciprocal partnership with the leadership (business, civic, and political) of its community or region, a partnership focused on the common goal of shaping a community that is strong and equitable, both economically and socially. Predominantly "others centered" in orientation, the interactive university is willing and able to involve its community citizens as "stakeholders" or co-owners in the university's future. This orientation contrasts with the classic university, an institution partly characterized as aloof and separate from society, serving as a detached critic rather than an active participant (Gilley, 1990, p. iii).

To develop this interactive persona, Minot State identified several ways to make connections with the community and region including curricular outreach efforts to Native American tribal colleges, increased participation of University officers (vice presidents, deans and directors) in local service organizations and the Chamber of Commerce, and the distribution of satisfaction surveys to employers and alumni. Additionally, the Board of Regents--an advisory body to the University Foundation--was redefined to encourage more interaction between the University and the community.

The need for the economic development of the region. One need not have been an institutional researcher to observe this fifth area of need as identified in Phase I. The Minot area had experienced six consecutive years of drought in what is largely a farming area and was subject to a poor local economy as a result. A down turn in oil prices had resulted in decreased funding for public higher education. The populace was seeing its college graduates leave North Dakota in order to find employment; in fact current census data revealed an overall out-migration of the state's population.

The interactive university concept adopted to encourage community support had clear application in this area of need as well. In Phase II IR was called upon to help reposition the University by replacing its sleepy, Ivory Tower image of old with one of a vital, active partner deeply involved in the health and well-being of the region. Through an analysis of its own resources the University was able to develop such entities as the Business and Community Assistance Center (BCAC) and the Minot Area Development Corporation (MADC). These entities work for the welfare of the economic region surrounding Minot and make available the human and physical resources of the University to the business communities for the common good of the area. BCAC is entirely funded by Minot State University and works as a broker/incubator for bringing new businesses into the area. The MADC is a tax-supported public entity that works in tandem with the BCAC by providing seed money for new businesses wanting to locate in the region. Since 1990, more than five hundred new jobs can be attributed to these combined efforts.

The need for the development of additional monetary resources. This was the sixth area of need identified by IR in Phase I and is the result of steadily declining state revenues--and even budget recisions--coupled with steady enrollment increases over the past ten years. In fact, Minot State has almost doubled its enrollment since 1980. (By state statute, North Dakota has an open

admissions policy. Students with a high school diploma may not be denied admission to the NDUS.) Many individuals who would have entered the work force had they the opportunity to do so, have turned instead to Minot State as a means of acquiring additional job skills or credentials.

How to develop additional resources? IR suggested two tacts: aggressive involvement in grant writing and the full-scale development of an advancement operation for the University. Minot State then hired a full-time grants and contracts director to organize such an office. A development officer also was hired to organize that operation.

The need for the improvement of academic quality. This was the seventh area of need identified by IR in Phase I. Two sources had brought this need to light. The first was in the form of criticism leveled by the North Central Association of Colleges and Schools in their 1987 review which cited inadequate academic planning. The second was the North Dakota State Board of Higher Education's 1990 mandate to conduct an all-program review as a means of justifying their existence. The campus needed to put in place a process that allowed for the collection of data in order to manage institutional change in a quality control environment. To meet this need the IR office was charged with the responsibility for initiating a multi-staged outcomes assessment operation--currently in its third year. The assessment operation has been linked directly to the North Central Association's mandate to develop and implement an assessment plan by June of 1995 as a tool for evaluating quality at the institution.

IR provided data which led to the decision to drop two-year degree programs from the inventory. Its resources were used to modify a faculty evaluation process designed to improve quality. And, IR helped to identify resources for the development of the Midcontinent Institute for Writing and Critical Thinking, a unit devoted to improving faculty writing and thinking skills. In many ways, institutional research was used in Phase II to suggest appropriate solutions to the problems it had identified in Phase I of the institutional change process.

Phase III: Assessment

The need for more classroom and office space. During Phase III (1992-1993), IR was called upon to assess the viability of the solutions that had been pursued as a result of Phase II. For example, the need for more classroom and office space had necessitated the development of a plan to solicit more funding

for buildings. That plan, then, resulted in the procurement of both federal and state funds to remodel and expand a building on the campus. An analysis of those actions in Phase III indicates the strategy chosen was correct and that IR had supported an action which led to the desired outcome.

The need for increased numbers of terminally-degreed faculty. Assessment of this course of action points to mixed results. The "grow your own" approach indeed has added to the University's terminal degree total, as the overall percentage of Ph.D.'s among the faculty has increased over the past three years from 49 percent to 59 percent. However, the realities of the budget situation coupled with the increase in enrollments have necessitated the dissolution of some of the tenure-track lines into the part-time salary pool in order to create enough classes for the incoming students. Additionally, follow-up studies need to be conducted to determine if these "home grown" Ph.D.'s will stay on the campus long enough to more than pay for the investment.

The research opportunities available to faculty have been adversely affected by decreased resources and a reduction in the amount of appropriated money available for use in those important areas. The assessment phase concluded that although the Phase II solutions seemed viable, the realities of the funding have produced less than the desired result. The residual effect of the Phase III analysis is a heightened awareness on the part of the planning team of the importance of increasing soft money opportunities in order to pursue these solutions.

The need for administrative reconfiguration. In Phase II, IR had provided data supporting the need for expansion of the development officer's role. Also, an analysis of the organizational structure suggested that the student records area needed to be reorganized and its data reporting capabilities improved. In light of administrative cuts, it was also clear that a redistribution of the chief academic officer's responsibilities was necessitated. Then at Phase III, IR was asked to examine the outcome of the solutions pursued. It was concluded that the expansion of the development officer's role had been appropriate, as gifts to the University increased significantly. Output measures of IR reporting also supported the student records reorganizational decision. However, it was concluded in Phase III that the redistribution of the chief academic officer's responsibilities had not been effective, as productivity decreased among those to whom responsibilities had been shifted. That administrative line has since been restored to the campus.

The need for improved community support. Assorted measures collected in Phase III suggest that increased support for the campus by the community and region are most evident. The availability of the Bureau of Social and Behavioral Research to collect and disseminate relevant data and thus affect planning for institutional change has been invaluable. Survey results have shown a steady improvement in the reported perceptions of the University by assorted constituents. These have also enabled the institution to become familiar with issues of importance to the community and be responsive to them.

Improved legislative communication has resulted in a better understanding both of the University's interactive role and as a player in the North Dakota University System. This has been most valuable. For example, Minot State was the only campus in the NDUS to win legislative approval for a public building project in 1993. Further, an additional 3.5 FTE faculty were added to the MSU allotment for 1994-95 at a time when other NDUS institutions were being cut back.

The need for the economic development of the region. Phase III assessment of this need is mixed. Although the BCAC has been instrumental in serving the region and attracting new jobs, it has not reached its own goal of self-sufficiency in the allotted three-year time frame. It has, however, proven to be a valuable public relations tool in both the improvement of community relations and the enhancement of economic development opportunities in the region.

The need for the development of additional monetary resources. Phase III assessment of the development/advancement operation also produced mixed results. For a campus that went from little focus on grants and contracts to one with a full-time director, the result has been highly successful. At the time of this writing, total grant awards had increased by 3000 percent over a five-year period. The development office is a different story. It is true that there are now three full-time employees working in institutional advancement, and the operation has significantly increased its first-year holdings from $900,000 to more than $3,000,000 in five years. Additionally, the operation has attracted more potential givers and has provided a sound development structure for planned giving. However, the revenues generated relative to the revenues spent on the operation itself are unsatisfactory. This must yet be studied in greater detail to increase the operational yield significantly.

The need for the improvement of academic quality. Attention paid to this need area, as determined by the Phase III assessment, has resulted in a deliberate and calculated refinement of the institution's mission, including a campus-wide reworking of the mission statement itself, and a focused attempt to identify those strong programs to be retained and those weak programs to be eliminated. These actions have led to the elimination of four two-year programs and the addition of four graduate programs. The University is now positioned to participate in the NDUS's "mapping exercise", in which each of the eleven institutions in the system plans to share programs and authorities for the delivery of system--rather than campus--programs.

Academic quality has also been improved via a revised and improved tenure evaluation process. The result was a tenure denial last year--a "first" in more than ten years. Tenure is no longer a given. Stringent standards must be met. Faculty now have a fair and equitable process for determining who should or should not be awarded tenure.

Phase IV: Direction for Action

The University is now entering Phase IV in its use of institutional research to assist in organizational change. As it has evaluated the effects of recent decision making, IR brings to light new areas to be addressed, new problems to solve. For example, an analysis of academic quality characteristics and space utilization points toward the inevitable need to differently manage enrollment. Thanks in no small part to the evolving role of IR, the organization has come to know itself better. Minot State has set some goals believed to remedy identified needs and, as it has achieved those goals, has examined their efficacy. The resources of institutional research can now be used in Phase IV to develop some creative responses to improve the overall condition of the organization. On this particular campus IR is being used as a catalyst for institutional change.

## Keeping IR Active in Institutional Change

It may well be that Institutional Research activities are on the verge of becoming something different than what they historically have been. Although the literature is thin on specific examples of this, that which does exist suggests that IR can undergo a transformation on a campus. It has the potential of going beyond the customary data collecting/reporting and policy analysis roles and becoming a key player in the strategic management of the institution (Chan,

1993). Both conceptual and tactical changes need to be considered by the IR office that is interested in making this leap, and Chan (1993) provides some guidance about how to make this happen. Another helpful resource is to be found in Levine (1980). He has compiled a useful synthesis of assorted theories on planned change in which he cites others' observations about how change ought to occur and groups them into the following twelve categories:

1. Create a climate, even a demand, for change
2. Diminish the threat associated with innovation and avoid hard-line approaches
3. Avoid being timid
4. Appreciate timing
5. Gear the innovation to the organization
6. Engage in information dissemination and evaluation
7. Communicate effectively
8. Get organizational leaders behind the innovation
9. Build a base of active support
10. Establish rewards
11. Plan for the postadoption period
12. Other (Levine, 1980, pp. 210-211).

Many of these elements are already built into an IR operation. Others clearly fall on the shoulders of a campus leadership team to sustain. However, there is simply no good reason for leadership to overlook the role of IR in bringing about organizational change. In some respects, IR is like a sleeping giant on many campuses. Its potential for influencing outcomes is awesome--it needs only to be invited to the table.

## Summary

Although the focus of the institutional research activities at Minot State has evolved since 1987, institutional research remains a key ingredient in the organizational change process at this University. IR has contributed pertinent data and has helped to bring about planned change. The four phases or "lives" of IR on this campus have been used as "bricks and mortar" for institutional change. Institutional Research can be used to identify needs--sort through the rubble--propose solutions, evaluate outcomes, and suggest refinements or redirections along the way. IR serves to clarify the blueprint for the architects of institutional change by giving structure and dimension to the edifice. Institutional research can and should be a major player in organizational decision making.

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